

# ABSTRACT

A moving-image holographic reproducing device that includes a reflective liquid crystal display and further a light-emitting diode functioning as a light source and that is capable of reproducing a high-resolution image in a simple way is provided. Also, a color moving-image holographic reproducing device that is capable of reproducing a color holographic image by a significantly simplified structure using a single plate hologram without the need for time-multiplexing is provided.

The moving-image holographic reproducing device includes a computer for creating a hologram from three-dimensional coordinate data, a reflective liquid crystal display for displaying the hologram, a half mirror for projecting the displayed hologram, and a light-emitting diode, wherein a reconstructed three-dimensional image is displayed by illuminating the half mirror with light emitted from the light-emitting diode.

Manipulating a sufficiently large size three-dimensional holographic image in real time requires computational power one thousand to ten thousand times higher than that of current supercomputers. According to the present invention, such an amount of information can be processed at high speed by dedicated hardware in a highly parallel and distributed manner.